SSVEO IFA List **Date:02/27/2003**

STS - 85, OV - 103, Discovery (23) **Time:04:01:PM**

Tracking No	Time	Classification	Documentation		Subsystem
MER - 1	**MET:** Prelaunch	Problem	**FIAR**	**IFA** STS-85-V-01	GN&C
	GMT: 219:04:34		**SPR**	**UA**	**Manager:** Vincent Levy
			IPR 91V-0003	**PR**	
					Engineer: Vester Purkey

Title: R-OMS Standby Yaw Actuator Slow Drive Rate (ORB)

Summary: During prelaunch operations, the right OMS standby yaw actuator rate was observed to be low during the OMS profile test. The actuator drive rate has a minimum requirement of 2.9 deg/sec and is only allowed to change by a maximum of 1.0 deg/sec between comparable tests. During the prelaunch gimbal profile test, the standby drive rate differed from the previous comparable test by more than 1.0 deg/sec. During subsequent testing to investigate this condition, a drive rate of 2.5 deg/sec was observed, which was below the minimum rate of 2.9 deg/sec that is specified in the Operational Maintenance Requirements and Specification Document (OMRSD). The Launch Commit Criteria (LCC) allows the loss of one channel (active or standby) on either the left or right side. After the OMS 2 maneuver, the gimbal check was performed again. At that time, the drive rate was sufficient to avoid a fault detection and annunciation (FDA) message. The standby drive rate of the actuator was below nominal levels, but was considered usable for steering during an OMS maneuver, should an active channel be lost.

KSC will remove and replace the actuator without performing troubleshooting post-flight.

Tracking No	Time	Classification	Documentation		Subsystem
MER - 2	**MET:** Prelaunch	Problem	**FIAR**	**IFA** STS-85-V-02	RCS
PROP-01	**GMT:** 219:14:41		**SPR**	**UA**	**Manager:** Samuel Jones
			IPR 91V-0004	**PR**	x39031
					Engineer: Steve Arrieta
					x36435

Title: R-RCS Ox Manifold 5 Loss of Open Position (ORB)

Summary: Just prior to liftoff, the right RCS oxidizer manifold 5 isolation valve open discrete measurement began toggling. From the data, it can be seen that the open discrete changed from 1 to 0 (loss of open indication) at 219:14:40:56 G.m.t. (~T-4 sec), changed back to 1 at 219:14:40:58 G.m.t. (~T-3 sec), and changed back to 0 at 219:14:40:58 (~T-2 sec). At 219:14:42:31 G.m.t. (00:00:01:31 MET), the open indication returned for six seconds after which the open indication was lost until 219:15:00:00 G.m.t. (00:00:19:00 MET). Throughout ascent, the corresponding closed discrete measurement indicated 0 (not closed). The open discrete measurement toggling caused an RM dilemma and master alarm on two occasions during ascent. The measurement continued to indicate open until 220:20:38:03 G.m.t. (01:05:57:03 MET), when the open discrete measurement again changed from 1 to 0 following initiation of the NC 4 burn. The redundancy management (RM) fault message ?RM DLMA MANF? occurred at 220:20:38:06 G.m.t. (01:05:57:06 MET). Following the NC5 maneuver, the valve position indicator continued to indicate not-open. The right RCS manifold 5 status was overriden open and vernier operation resumed. This problem was not an impact to the mission.

RCS oxidizer manifold 5 isolation valve was not cycled during the postflight "RCS,OMS Valve Test" which will aid troubleshooting of the VPI by preserving as much information/evidence as possible. There was no change in the loss of the OPEN indication of this valve during entry and landing. After Fuel Cell power down and ground power up of the vehicle, the open discrete started to toggle. At KSC, the LV358 connector inspection and wiggle test is complete. Corrosion found at valve connector receptacles. No other anomalies detected.

Tracking No	Time	Classification	Documentation		Subsystem
MER - 13	**MET:** 08:01:00	Problem	**FIAR**	**IFA** STS-85-V-03	DPS
DPS-01	**GMT:** 227:15:41		**SPR**	**UA**	**Manager:** Kevin Dunn
			IPR	**PR** DIG-3-24-0309	x38367
					Engineer: Don Peck

Title: Transient DEU 1 Memory Parity Error (ORB)

Summary: At 227:15:41:46 G.m.t. (08:01:00:46 MET), GPC 1 annunciated a CRT BITE 1 message. The DEU BITE status words and poll header word indicated a critical BITE due to a DEU 1 (s/n 19) memory parity error. The crew reassigned CRT 1 to GPC 1 and the BITE indication returned because this action doesn't clear the BITE status register (BSR). The crew worked the malfunction procedure 5.4b (CRT BITE 1), and at block 12, the BITE status words were nominal, indicating that the BITE condition had cleared. Therefore, the crew reassigned CRT 1 to GPC 1 and the BITE has not repeated.

No post-flight troubleshooting is required by KSC. The DEU was removed and replaced.

Tracking No	Time	Classification		Documentation		Subsystem
MER - 14	**MET:** 10:16:45	Problem	**FIAR**	**IFA** STS-85-V-04		ECLSS
	GMT: 230:07:26		**SPR**	**UA**		**Manager:** Nanette Cerna x39045
			IPR	**PR** ECL-3-24-1250		**Engineer:** Dennis Veselka x40126

Title: FCL Evaporator Outlet Temperature Oscillations on FES Primary B Controller (ORB)

Summary: When the FES Pri B controller was activated (both Hi Load and Topping Evaporators) after the secondary FES checkout, the FCL evaporator outlet temperatures oscillated as the temperature neared the control band. There were eight prominent cycles. Similar oscillations occurred on STS-82 (OV-103/22), but the amplitude and number of cycles were less (only 3 cycles). On STS-85 the initial cycle peaked at approximately 46 ?F. On STS-82, the initial cycle peaked at approximately 44 ?F. On STS-82, the oscillations damped out after about two minutes. On STS-85 the oscillations lasted approximately six minutes.

On STS-85, the oscillations did not occur at the initiation of radiator cold soak (FES Pri B topping evaporator). This signature suggests that the problem is associated with the midpoint sensor, and is typical for a temperature sensor having poor contact with the sensor well. The poor contact is frequently caused by loss of thermal grease around the sensor. KSC will perform troubleshooting.